Unit 11: Introducing weight and volume

Comparing weight

➜ pages 104–106

1. Children should have circled the following:
a) The shoe
b) The shoe
c) The middle set of scales

2. Children should have circled the feather and the balloon. (Children could also have circled the car, lorry and tractor if they thought they represented toys rather than real vehicles.)

3. a) lighter
b) heavier

4. Children should have drawn lines joining the animals to the side of the seesaw as follows:
a) As shown in the example
b) zebra ➜ left-hand side (heavier), hedgehog ➜ right-hand side (lighter)
c) camel ➜ right-hand side (heavier), mouse ➜ left-hand side (lighter)
b) giraffe ➜ right-hand side (heavier), cat ➜ left-hand side (lighter)

5. Children should have labelled the sacks from left to right as follows:

rhombus, star, triangle

Reflect

The book is heavier than the pen.
The pen is lighter than the book.

Children should have explained that, on balance scales, the side containing the heavier item(s) will be lower than the side containing the lighter item(s).

Measuring weight

➜ pages 107–109

1. 8, 20

2. Children should have completed the table as follows:

Teddy	6
Boot	20 (pictures show it is the only object that weighs more than 15 cubes)
Book	15
Ball	10

3. 5 + 8 = 13 or 8 + 5 = 13

13 marbles are needed to balance the set of scales.

4. Alternative answers are possible where children have chosen to place cubes on both sides of the scales but the following answers assume children have only placed cubes on one side:

8 cubes on right side	5 cubes on right side
6 cubes on left side	3 cubes on left side (with the cube)

5. Children should have circled the drawing of scales on the far right.

Reflect

Children could have described the weight of the bread in different ways, e.g.

The loaf of bread weighs the same as 12 cubes.

The loaf of bread weighs the same as 4 big blocks and 3 small blocks.

The loaf of bread is 12 times as heavy as 1 cube.

Comparing weight using measuring

➜ pages 110–112

1. a) heavier
heavier
lighter
heavier
b) small ball, tennis ball, rugby ball

2. a) heavier
b) lighter
c) heavier
d) heavier, heavier

3. pineapple, orange, apple, banana or banana, apple, orange, pineapple

4. Children should have completed the table from top to bottom as follows: C, B, A, D

Reflect

The cupcake is heavier than the doughnut. Children should have identified that you cannot tell about the éclair, because it is shown balancing 3 cubes and 1 smaller cube and we do not know how the weight of this small cube compares with the others.

Comparing capacity

➜ pages 113–115

1. a) full
b) empty
c) empty

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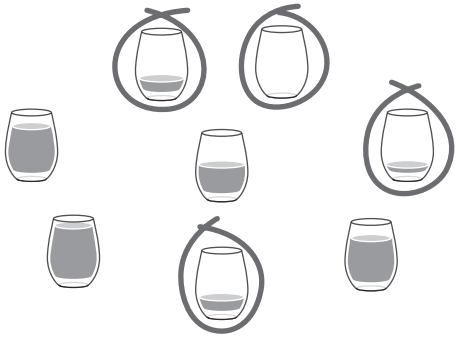
2. E, A, C, D, B

3. Children should have circled the glasses as follows:



4. In the glass on the left, children should have drawn liquid to a level more than shown in the image and in the glass on the right they should have drawn liquid to a level between the two amounts shown.

5. A

Reflect

more, full, empty

Measuring capacity

➜ pages 116–118

1. a) 8
b) 11

2. 4, 2, 5

3. a) 4 + 6 = 10 or 6 + 4 = 10
b) 1 + 6 = 7 or 6 + 1 = 7

4. a) 15
b) 25

Reflect

The pan holds 3 jugfuls. 15 glasses fill one pan.

Children need to multiply the number of glasses by the number of jugs in order to identify the capacity of the pan.

Comparing capacity using measuring

➜ pages 119–121

1. Children should have matched the pictures as follows:

1st jug ➜ 4th set of glasses (4)

2nd jug ➜ 1st set of glasses (8)

3rd jug ➜ 2nd set of glasses (12)

4th jug ➜ 3rd set of glasses (14)

2. a) more
b) less
c) more

3. C, A, B

4. Kat is correct. Children may explain their reasoning in different ways, e.g.

The water has been poured from the jug to fill 4 glasses. There is still some water left in the jug so the jug holds more than 4 glasses of water in total.

The water that is left in the jug could be poured into another glass. There are already 4 glasses so the jug holds more than 4 glasses of water.

5. a) more
b) less
c) more

Reflect

Children could have suggested different methods for comparing the capacity of the containers, e.g.

I would get a small cup and count how many cups of water it took to fill each container. The container that took the smallest number of cups to fill it would have the smallest capacity. The container that took the greatest number of cups to fill it would have the greatest capacity.

I would fill up one container and then pour the water into the other containers, one at a time. If the water does not fill the second container, then the second container has a greater capacity than the original container. If the water fills the second container with some left over, then the second container has a smaller capacity than the original container.

Solving word problems – weight and capacity

➜ pages 122–124

1. a) 8 – 7 = 1, 8 – 3 = 5
b) There are 4 glasses left.

2. a) 6 + 4 = 10 or 4 + 6 = 10. The bag weighs 10 cubes.
b) 18 – 4 = 14 (or 4 + 14 = 18). The bag weighs 14 cubes.
c) 10 – 5 = 5 (or 5 + 5 = 10). The bag weighs 5 cubes.

3. a) 4 circular weights balance 1 square weight.
b) 2 spherical weights balance 1 cylindrical weight.

Reflect

Children could have identified different problems as the most challenging.

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End of unit check

➜ pages 125–126

My journal

10 glasses of water would weigh 16 blocks.

Children should have reasoned that the weight of 10 glasses would be double the weight of 5 glasses.

Power play

J, A, N

Check children's individual answers based on their own names. They should all be multiples of the weight of a single cube.

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